

# One McCalla Professor Probes Earth's Mysterious Mantle. . .

Armed with a million dollars worth of tools and a McCalla Professorship, Christopher Scarfe and his team probe the mysterious depths of the Earth's mantle, the 1,800-mile-thick portion of our planet lying between its crust and molten core.

Last spring, Dr. Scarfe (Geology) was awarded \$1 million by the

Natural Sciences and Engineering Research Council and the University to buy a state-of-the-art multiple anvil device that can replicate the pressures and temperatures found 350 miles beneath the planet's surface.

Dr. Scarfe's appointment as a McCalla Professor means he can devote a full year to researches

with the new device, due to be installed in the Earth Sciences Building later this month.

The minerals, rock forms, movement and evolution of the deeper parts of our planet's mantle have remained obscure, he comments, "except for inferences from certain types of geophysical measurement."

The prime target of Dr. Scarfe's McCalla researches will be the melting behavior of peridotite (a rock type with high granite content), how two magmas (komatiite and kimberlite) are formed, and the properties and structure of silicate and alumino-silicate melts at extreme pressures.

Japanese melting tests suggest that a very young Earth may have had a "magma ocean" of liquid peridotite.

Dr. Scarfe was educated at Durham, Chicago and Leeds. He came to the University of Alberta in 1972, and was appointed professor in 1984, the year of his senior research fellowship in the Japan Society for the Promotion of Science.

He was elected to the New York Academy of Sciences in 1986. □

# FOLIO

University of Alberta

11 February 1988

## . . . Another Develops Synthetic Peptides

During his year as a McCalla professor, James Lown, whose general area of research is bio-organic chemistry, will focus on the development of synthetic small peptides (oligopeptides) as agents for deciphering the DNA recognition code, and as cell regulatory agents for diagnosis and therapy.

Peptides are important structural components and messengers in living systems. Each peptide has a unique amino acid sequence that directs the assembly of the polypeptide chain. Scientists now understand how a particular amino acid sequence is coded, and how the information present in the DNA is transcribed and used to assemble the polypeptide chain.

What is still not understood is how that information is controlled.

The question is considered important enough and broad enough to be the concern of more than half the molecular biology research going on today.

The regulation of gene expression is generally controlled by sequence specific proteins, and in certain cases is achieved by a nucleic acid fragment. Recently, it was established that some natural RNA sequences are able to repress the expression of certain genes.

If such repression could be achieved artificially and selectively, it would be a great advantage in understanding the processes of gene expression—and it could ultimately be used for therapeutic purposes.

Natural gene probes, although suitable in some respects, have other major disadvantages.

Dr. Lown and his research group of seven postdoctoral fellows recently developed certain naturally-based structurally-modified oligopeptides as gene probes. It is this very promising line of research that Dr. Lown will vigorously pursue over the next year.

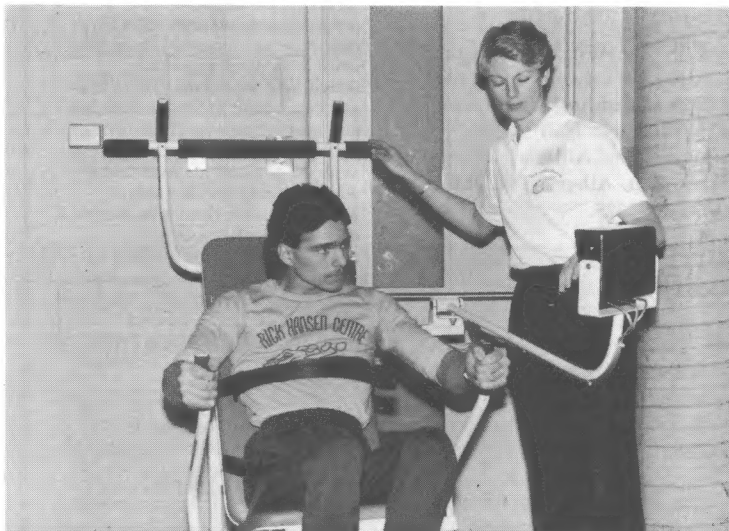
His work is supported by the National Cancer Institute of Canada and the Natural Sciences and Engineering Research Council of Canada, and by the National Institutes of Health and the National Foundation for Cancer

Research in the U.S.

After obtaining his BSc and PhD from Imperial College London, Dr. Lown joined our University in 1961 as a postdoctoral fellow working under Raymond Lemieux. Appointed assistant professor in 1962, he went to the Walter Reed Army Institute of Research, Washington, DC, in 1963, as research associate in the

Department of Biophysics. In 1964, he returned to the U of A and was appointed Professor of Organic Chemistry in 1974.

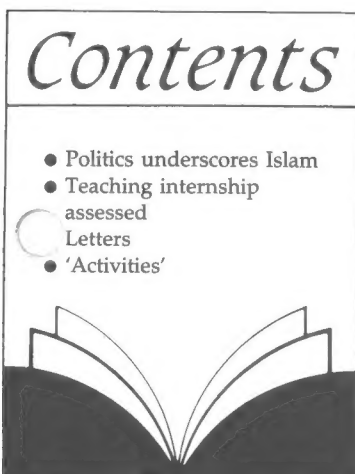
Much in demand as an invited speaker (with 39 presentations in the last three years), Dr. Lown has published 191 papers in refereed journals, has edited one book, and has contributed five chapters to another. □



Photo/University of Alberta/OFA

### Yours in Fitness

Since its inception 10 years ago, the Rick Hansen Centre (formerly the Research and Training Centre for the Physically Disabled) has helped thousands of disabled athletes. In its first year of operation, more than 250 people went through the Centre's doors; last year, about 7,800 visitors were made welcome. Staff provide athletes and their coaches with technical information about specific training methods and general fitness and maintain a highly sophisticated training facility. Here, research associate Leona Holland tests Rick Lenglét's fitness during the Centre's recent open house.



# Selling Yourself in the Gulf: Arab Scholars and Survival

He terms most Arab scholars "clowns" and "lackeys of the State", reminds you the Ayatollah Khomeini is nothing new in Islamic politics and agrees "intellectuals are the last people to carry guns."

Tareq Ismael, who has been teaching politics at the University of Calgary for almost 20 years now, wears boots and a western-cut suit. But look into his eyes and the Bedouin looks back out.

Islam is religion and politics, he tells his audience at a lecture sponsored by Religious Studies (Humanities Centre, 1 February). And it's a religion without the idea of personal salvation, he adds.

"Islam has dealt with politics from Day One," and has 1,300 years of continuous legal tradition for its mullah legislators to draw on.

He links the jihad (holy war), the Moslem Brotherhood and the Iranian ayatollah as examples of "normal political activism" in Islam's ongoing efforts to "refine the State to serve Man on Earth."

Twentieth century attempts to split Islam into political and religious components through the

introduction of Western democratic governments have uniformly failed, Professor Ismael contends, adding that "when the State oppresses everyone, the mosque is the only place for the Islamic faithful to turn to." Hence the success of the Ayatollah Khomeini, trained in political activism at An Najaf in Iraq, where he managed to meet with almost every single Iranian mullah. It was networking of a very sophisticated order, says Professor Ismael. As a result, the ayatollah was able to build up political strength, survive the Shah's secret police, and be in the position to lead a mass revolution.

Intellectuals in the Arab world on the other hand have failed utterly to provide community leadership, claims the political scientist. "Most are clowns . . . who have become lackeys of the State," he says, citing the case of the Egyptian professor who earns the annual equivalent of \$100, but can make \$500 for an article in a Gulf newspaper. In the Arabian Gulf, he reminds you, "the personal wealth of a political science professor can exceed \$15

million."

Professor Ismael understands the plight of his Egyptian brother academic all too well. "I'm a middle-class coward myself."\*□

*\*Professor Ismael's lecture is part of a series presented by Religious Studies and designed to link campus and community on major religious issues. Other lecture topics include Third World development, translation of holy scripture, and Africa's role in ancient Christianity. □*

## The Family That Plays Together . . .

Campus Recreation's annual Family Fun Sunday gives families, not to mention students, staff and residents of neighboring communities, a chance to gambol in the Universiade Pavilion and splash in the West Swimming Pool.

Promotional material for the 14 February event notes that moms, dads, kids and couples can participate in various unstructured recreational pursuits and/or structured cooperative games. In other words, if you see something you like, go for it.

Family Fun Sunday will last from 1:30 to 4 p.m. Participants are encouraged to register at the table in the Pavilion; games will start at 2 p.m., and a recreational swim will get under way at 3 p.m. in the West Pool.

Cookies and juice will be served to all at 3:45 on the pool deck.

Campus Recreation would like to hear from those who plan to attend. Kindly call 432-2555 before 4 p.m. on 12 February and indicate the number of people in your party.□

## Former Executive Officer of Senate Joins Advanced Education Team

Deputy Premier and Minister of Advanced Education Dave Russell recently announced the appointments of two assistant deputy ministers and one executive director.

Neil Henry will become assistant deputy minister, Operations, on 1 March. Mr. Henry has been with Athabasca University in various capacities since 1976, most recently as vice-president of Finance and Administration. He was assistant dean of men at the University of Alberta in 1972 and spent the next two years as executive officer of the University Senate.

Mr. Henry holds a BComm and an MA in English. He has also completed candidacy requirements for a doctorate in English.

Bill Workman became assistant deputy minister, Policy and Planning Division, on 1 February.

After several years of service in the British Columbia school system (he was a teacher and vice-principal), Dr. Workman completed his doctorate in educational administration and joined the Department of Advanced Education in 1975. For the past six years, he has served as director of Financial Planning.

Peter Schmidt assumed the position of executive director, Department Services, on 8 February. Mr. Schmidt holds a senior position with the Solicitor General's department where he has been for seven years. A chartered accountant, he has held several financial positions of increasing responsibility with the Department of Health and Community Services in Manitoba, as well as controller positions in the private sector in that province.□

## GFC Planning and Priorities Committee

At its meeting on 25 January, General Faculties Council considered and endorsed a proposal to increase by two the number of members on PPC (by adding one member of the full-time continuing academic staff from the APO/FSO/Librarian groups, and one member of the full-time continuing support staff).

The GFC Nominating Committee invites nominations for these positions. All nominations, or expressions of interest, should be accompanied by a brief biographical sketch and be directed to Ms. M. Delane, Coordinator, GFC Nominating Committee, 2-5 University Hall (432-4715).

## FOLIO

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# Teaching Internship Program Meets With Approval

On 30 November 1987, Alberta Education released the report of evaluation of the Initiation to Teaching Project. This evaluation was conducted by a team of 12 professors from three universities in Alberta. The primary evaluators were Gene Ratsoy, David Friesen and Ted Holdaway (Educational Administration). They were assisted by Al MacKay and Chet Bumbarger of the same department; Claudette Tardif and France Levasseur-Ouimet of Faculté Saint-Jean; Alice Boberg, Abe Johnson and Wally Unruh of the University of Calgary; and Myrna Greene and Frank Sovka of the University of Lethbridge.

For many years, educators have been dissatisfied with the "swim or sink" method used with beginning teachers. That is, in contrast with practices in medicine, law, accounting, architecture, engineering and other occupations, beginning teachers are expected within a few months of completing their university preparation to assume a full teaching load, usually with little formal assistance being provided.

Recently because of dissatisfaction with the typical induction procedures used with novice teachers and partly because an oversupply of teachers existed in Alberta in 1985, the Department of Education, the Department of Career Development and Employment and the school systems provided \$28 million over a two-year period to employ beginning teachers as "teacher interns" for up to 10 months at an annual salary of \$15,600. About 900 were employed in each of the 1985-86 and 1986-87 school years. Many of these teacher interns might otherwise have been either unemployed or employed in non-teaching occupations. The project guidelines specified that teacher interns would have a reduced teaching load and appropriate helpful supervision and would not replace regular teachers. This innovative project had another unusual characteristic—one percent of the total budget was allocated for evaluation which was primarily formative in the first year and summative in the second.

The evaluation of the internship program, which involved obtaining information from about 6,000 individuals, included these activities: an extensive literature review; the collection of information about internships in other occupations; interviews with professors, in-school staff members

and representatives of major educational organizations; questionnaires completed by professors, senior education students, beginning teachers, interns, supervising teachers, principals and superintendents; observation and coding of the teaching behavior of beginning teachers and interns; reports by superintendents and by consultants in regional offices of education; and analysis and assessment of this large volume of information. Some of the information about other occupations was obtained by interviewing deans and associate deans in other faculties on the University of Alberta campus.

## Pros Outweigh Cons

The evaluation revealed that the internship year greatly facilitates the student-to-teacher transition. The numerous positive features and the strong support for continuing a teacher internship program by virtually all major educational groups far outweighed the several negative features. Direct benefits, usually not available to beginning teachers, were experienced by interns. Benefits also accrued to supervising teachers, to students, and to the schools in which the interns were employed. The respondent groups expressed over-all support for the four specific purposes of the internship program, namely, the refinement of teaching skills of interns, the assessment of the interns' suitability for placement, the development of professional relationships by interns, and the further development of professional skills of supervising teachers.

As a result of the evaluation, the following recommendations were made in the report:

That, by September 1990, every beginning teacher—one that is, one who has completed the university teacher preparation program and has never been employed on a regular, full-time contract—be required to complete successfully an approved internship, to be known as a "Teacher Residency Program" for "Resident Teachers." The program would have these central features:

1. length of residency to be an entire school year;
2. programs for resident teachers to be developed by each school jurisdiction in accordance with provincial regulations and guidelines;

3. resident teachers to be employed only in schools which are approved on the basis of their ability to offer suitable programs for resident teachers;
4. emphasis to be placed upon effective teaching and classroom management;
5. supplementary experiences to be organized to allow the resident teacher to become familiar with the teacher's role, the operations of a school throughout the year, and student development during a school year;
6. teaching load to be substantially less than that of a full-time teacher at the beginning of the school year but to increase during the year;
7. supportive supervision with emphasis on formative evaluation and regular feedback to be provided by a trained team of support teachers, one of whom should be designated "Residency Advisor";
8. privileges enjoyed by other teachers to be extended also to resident teachers with respect to benefits, certification and re-employment, except that their salary should be in the order of four-fifths of that of beginning teachers; and
9. a "Teacher Residency Board" to be established as an independent authority with responsibility for designing the program, for developing regulations and guidelines, for approving schools in which resident teachers may be employed,

for developing evaluation criteria and standards for successful completion of the Teacher Residency Program, and for over-all direction and monitoring of the program; this board would be composed of representatives of the major educational organizations in the province.

The evaluation team also recommended that 1988-90 be used as a phase-in period during which all beginning teachers would have a reduced teaching load and appropriate supervision. Further, guidelines and regulations based upon the 1985-87 internship experiences and reactions to the recommendations listed above would need to be developed if the recommendations are to be implemented. Of course, because financial costs would be associated with the proposal, decisions would have to be made on how these should be apportioned. Other related matters, such as the impact of a residency/internship year upon current programs for preparing teachers and supervisory personnel in Alberta universities, were recognized but were not addressed in detail in the report. While acknowledging the complexity and cost of a system of teacher internship, the evaluators firmly maintain that the education profession and its primary clients, the students in schools, will benefit substantially from a transition program. Change in employment conditions for novice teachers appears to be long overdue. □

## Selection Committee for Dean: Faculty of Library Science

An Advisory Selection Committee has begun its search for a Dean of the Faculty of Library Science. The appointment will take effect 1 July 1988 or as soon as possible thereafter. The search is internal to the University of Alberta. Suggestions of possible candidates and assessments of the leadership needs of the Faculty are invited. Nominations or applications for the position, accompanied in the latter case by a detailed résumé of qualifications and experience, and the names of three references, should be submitted by

29 February 1988 to:

Dr. Amy E. Zelmer  
Associate Vice-President (Academic)  
Third Floor, University Hall  
University of Alberta  
Edmonton, Alberta T6G 2J9

# Letters

## Aggressive Ignorance Can't be Ignored

■ The rise of aggressive ignorance (see J. Osborne in *Folio*, 14 January 1988) has to be recognized as a serious problem, especially in the overcrowded courses where the direct contact between teachers and students is almost non-existent. Many students avoid taking courses with low enrolment because they feel uncomfortable meeting a professor face to face. We should pay much more attention to oral presentations and writing of papers in order to encourage students to be intellectually active, formulate their own ideas clearly and convincingly, be in general creative and self-critical. By ignoring the problem of an 'aggressive ignorance' we would defeat the basic idea of university and our main academic purpose. Distribution of credits makes sense only when it goes together with overcoming of intellectual ignorance. Memorization must be replaced by understanding, superficial approach must be eliminated in favor of an in-depth approach (see my opinion in *Folio*, 22 August 1985).

Ignorance is always aggressive because its basis is in the feeling of inferiority and inadequacy. It is just easier for an ignorant student to expect the professor to lower his/her level of teaching than to put much more effort into upgrading him/herself accordingly. However, any educational institution which is not ready to fight against ignorance among its students makes itself obsolete in the long run.

J. Osborne is right in claiming that "Professors have no protection against the harm done to their reputations by frivolous or mischievous complaints". We are here at the University not so much to keep students happy as "clients" but to train responsible citizens and professionals for their own future benefit as well as for the benefit of Canadian society.

The emphasis on oral presentations and writing is substantial for the quality of university training. Too much memorization and too little understanding make much harm. Students running from one course to another and learning facts quite superficially do not benefit in the long run.

What is so obvious in sport coaching does not seem to be appreciated enough among academics. Quantity does not change necessarily into quality through the process of academic learning. The fact that students actually remember so little from their previous courses is the best evidence that the accumulation of knowledge does not function well. It is easy to design various fashionable new academic programs but it is much more difficult to implement them meaningfully. The genuine professional credentials originate not from the number of courses taken by a given student but by his/her in-depth mastery of knowledge and skill.

Alexander J. Matejko  
Department of Sociology

## Regarding Aggressive Ignorance

- 1) Perhaps if there were more than one copy of Bloom's book in the library, the problem would go away.  
2) If J. Osborne's students eschew dictionaries perhaps he should be directing them to the computer. That is, if he knows how to use one.  
3) The last conversation I had with students was about abortion and that ain't pork bellies. Investments are for profs.

Ignorance can be remedied but is there a cure for erudition?  
Isabelle Foord  
BA MA

## On Pedagogy and Snobbishness

■ The opinion piece by John Osborne and the resulting exchange between Mohan Matthen and Osborne were entertaining as well as useful. The main message from Matthen was that he is a quotesman with thick lips. When he gets promoted to full professor he will be able to afford a bigger dictionary. In the meantime I suggest he try the library.

I agree with Matthen that reverence dulls the spirit of enquiry. There is no useful place for reverence in science or philosophy.

However, there is a place for simple acceptance, call it reverence if you wish, of things we have observed to be true but cannot explain. Such things sometimes occur in areas we label psychology, religion, sociology, music, dance, art, . . . Some of the epithets I used when I was ten years old I didn't know had a real meaning until I was over thirty. Some of the things I was taught by my parents during my first seventeen years have been taught to me again by 1,250 students during the past five.

While my teaching methods might be closer to Matthen's than to Osborne's, Osborne is the one who wrote and had published a valuable opinion piece. During the past five years I have been studying the problem he outlined, working with 1,250 students in the age range of 18-20 years. This problem has increased greatly during the past decade, and the problem is not the advancing age of the professors. The problem is that about fifty percent of the present students have not had the attention they needed from their parents to acquire a healthy self-esteem. That is the "much larger problem which extends beyond the university" to which Osborne referred. The low self-esteem has produced serious problems of societal ethics in addition to the aggressive ignorance that Osborne discussed.

Some of the ancient Carthaginians sacrificed their first male child to their gods. The Double Income Parents are bloodlessly sacrificing fifty percent of their children to their gods—a flashier car, a bigger house, . . .

I wrote on this subject for *Folio* a few years ago, but the piece was rejected by edict from above. Perhaps general awareness has advanced enough to make the present letter acceptable. The University has an important contribution to make to society in this regard. Only a few of us, including Osborne it seems, are trying to make it.

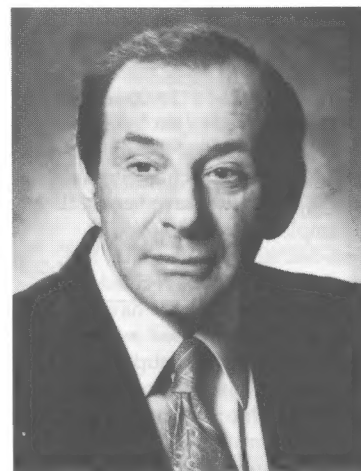
Gordon Freeman  
Department of Chemistry

## Queen's Awards Honorary DSc Degree to Werner Israel

Werner Israel, University Professor, was awarded an honorary DSc degree by Queen's University late in 1987.

In doing so, Queen's was honoring an eminent Canadian physicist whose name is synonymous with the concept of black holes in the Universe, says F.C. Khanna, director, Theoretical Physics Institute. "His numerous contributions to the theory of gravitation are highly respected internationally," Dr. Khanna continues. "He is popular as a public speaker and has contributed greatly to bringing physics to the layman. His teaching skills are legendary."

Honors and awards are not new to Dr. Israel. In 1972, he was elected a Fellow of the Royal Society of Canada; in 1981, the Canadian Association of Physicists awarded him the Medal of Achievement in Physics. In 1983, the University of Alberta gave him the Research Prize in Natural Sciences and Engineering. In 1984, he received the coveted Izaak Walton Killam Memorial Prize, and



Werner Israel is quoted in *Time* magazine's article on theoretical physicist Stephen Hawking (8 February).

in 1986, he was elected a Fellow of the Royal Society (London). These are only some of the honors bestowed upon him.

Dr. Israel currently holds a Senior Research Fellowship with the Cosmology Program of the Canadian Institute for Advanced Research. □



## Activities

**Kay Dier** (Nursing) was in Thailand in November to do a feasibility study on a primary health care project for the Canadian Public Health Association . . . **Bruce Dancik** (Forest Science) recently was named assistant editor-in-chief for the NRCC Research Journals

operation. The National Research Council publishes 13 scientific journals . . . On 18 January, **Myer Horowitz** addressed the University Women's Club of Edmonton on the topic "The University of Alberta: Now and in the Future". Later that week he addressed the banquet of the University of Alberta President's Club in Calgary on "Our University and Fund Development" and delivered an address on "The Challenge in Education" to the University of Alberta Faculty of Education Alumni Association . . . **Walter R. Thorson** (Chemistry) has been elected a Fellow of the American Physical Society for his important contributions to the interface between atomic and molecular physics and quantum chemistry . . . The University of Alberta was represented by the team of **Robert Boyko**, **Susan Main**, **Gary Wood** and **Sandra Jenkins** at the annual NAIT Post-secondary Funspiel held at the Avonair Curling Club on 22 January. A dozen teams made up of curlers from NAIT, Westerra, AVC Edmonton and the U of A competed. The lone U of A team finished one point out of third place with a record of two wins, one tie and one loss . . . **Ed Zemrau** (Physical Education and Sport Studies) recently returned from Sheffield, England, where he represented the University and the Canadian Interuniversity Athletic Union at the annual meeting of the executive of FISU (International University Sports Federation) . . . Business students recently put their know-how to the test at national competitions. MBA students placed third among 16 teams at the 7th annual MBA case competition at Concordia University in Montreal. Meanwhile, undergraduate students made their first appearance in the final round of the Inter-Collegiate Business Competition held at Queen's University in Kingston. Fourteen universities participated in the event.

## Call for Nominations for Haultain Prize

The Alberta Heritage Scholarship Fund is seeking nominations of outstanding citizens or groups in conjunction with the awarding of the Sir Frederick Haultain Prize for 1988. The Prize is presented annually to "acknowledge and honor Albertans who have excelled in the arts, sciences and humanities."

An individual or group must be nominated by at least two people familiar with the individual's or group's work. The sum of \$25,000 will be presented to the outstanding citizen or group in each of three fields: fine, applied or performing arts; social or physical sciences; and education or humanities. Nominations will be accepted until 1 March 1988.

The following members of the University of Alberta community have figured prominently in past Haultain Prize selections: Violet Archer, Brigham Card, Henry Kreisler, Raymond Lemieux and Norbert Morgenstern.

Nomination forms for the Sir Frederick Haultain Prize can be obtained by calling the Students' Finance Board, Alberta Heritage Scholarship Fund, 427-8640. □

## Talks

### Boreal Institute for Northern Studies

12 February, noon. Eiji Tanaka, Hokkaido Cold Region Architectural Research Institute, Japan, "The Means to Secure Pedestrian Traffic During Wintertime and Policy Development for Winter City Planning." EB 336 Civil Engineering Building.

### Plant Science

12 February, 12:30 p.m. D. McArthur, "Chemical Control of Vegetative Growth and Yield in Berry Crops: Nitrogen vs. Anti-Gibberellins." 1-06 Agriculture-Forestry Centre.  
16 February, 12:30 p.m. L. Mikitzel, "Carnivorous Plants: Deadly Beauty." 1-06 Agriculture-Forestry Centre.  
19 February, 12:30 p.m. R. Hornford, "Ozone: Friend and Foe of Crop Production." 1-06 Agriculture-Forestry Centre.

### Economics

12 February, 3 p.m. Gregor Smith, Queen's University and UBC, "Calibration as Estimation." 8-22 Tory Building.

### Zoology

12 February, 3:30 p.m. R. Glen Northcutt, Department of Neurosciences, University of California, San Diego, "Evolution of the Lateral Line System." M-149 Biological Sciences Centre.  
19 February, 3:30 p.m. Marilyn Scott, Institute of Parasitology, McGill University, "A Nematode's Perspective of a Mouse Colony." M-149 Biological Sciences Centre.

## Print-Making Student Wins Alberta Art Foundation Scholarship

A scholarship much coveted by Art and Design students has been won by print-making student Wendy Christiansen.

The scholarship, valued at \$5,000, is made possible by an endowment of \$100,000 from the Alberta Art Foundation.

The good news, besides the fact that the budget for Ms. Christiansen's studies has a nice string of zeroes beside it, is that the government's matching scheme has increased the endowment. Two awards will be given in 1988-89 and the figure will be upped to three in 1989-90. Expansion will stop there since the award applies to three fields: painting, print-making and sculpture.

The award, created in 1984 and first presented in 1985, currently goes to a student entering the second year of the MVA program on the basis of high academic merit in the first year of the graduate program.

Joining Ms. Christiansen at the award luncheon at the Faculty Club was 1986-87 recipient Ann McMillan (Adele Knowler and

Sasha Rogers have also been selected for the award). Other guests included Culture and Multiculturalism Minister Greg Stevens; Phil Gougeon, director of the Alberta Advanced Education Endowment and Incentive Fund; Douglas Wright and Tin Ng of the Alberta Art Foundation; and the

University's Brian Scarfe, G.J. Egler and F.S. Chia.

Candidates for the award are nominated by the Department of Art and Design. The recipient is chosen by a three-member committee struck by the Dean of Graduate Studies and Research. □



Wendy Christiansen accepts the Alberta Art Foundation award from Dean Chia.

## Women's Studies

12 February, 4 p.m. Margaret Benston, Women's Studies, Simon Fraser University, "Designing Freedom: Feminism and System Design (On the Differences a Feminist Approach Can Make to Computer Communications)." 5-20 Humanities Centre.  
15 February, 4 p.m. Professor Benston, "Empowering Women in Science and Technology (On Discrimination in the Science and Technology Fields, and on the Differences Feminism Can Make to the Practice of Science and Technology)." 10-4 Tory Building.  
18 February, 4 p.m. Judith Fingard, professor of history, Dalhousie University, "Go West Young Women, Go West." 5-20 Humanities Centre.

## Northern Biology Seminar Series

15 February, noon. Doug Heard, Department of Renewable Resources, Northwest Territories, "Caribou-Wolf Studies in the N.W.T." B-121 Biological Sciences Centre.

## International Centre

All events take place at 400 HUB International.

12 February, noon. Kevin Flaherty, public program coordinator, Edmonton Learner Centre, "Third World Film Festival."  
12 February, 5 p.m. International Centre Housewarming Potluck.

15 February, noon. Slide presentation by Robert Sauvlet from Plenty Canada, "Rural Development in Lesotho."  
17 February, noon. Chinese New Year Celebrations!

## Political Science

15 February, 3 p.m. Guy Laforest, post-doctoral fellow, University of Calgary, "Fichte's *Reden* as a Model: Léon Dion's Discourses to the Québec Nation." B-104 Tory Building.  
16 February, 3 p.m. Guy Laforest, "Meech Lake: The Meaning and Centrality of Recognition." 10-4 Tory Building.

## Rural Economy

15 February, 3:15 p.m. Luis F. Constantino, "Issues in Canada/U.S. Trade in Forest Products." 511 General Services Building.  
18 February, 3 p.m. Elizabeth A. Wilman, associate professor, University of Calgary, "User Fees for Outdoor Recreation." 519 General Services Building.

## Finance and Management Science

15 February, 3:30 p.m. H.T. David, Iowa State University, "Saddle Point Strategies-Rationale and Rationality." 2-23 Business Building.

## Theoretical Physics Institute

15 February, 3:30 p.m. A. Kurbatov, Steklov Mathematical Institute, USSR Academy of Science, Moscow, "Asymptotical Properties of Evolution Equations for Open Systems Interacting with Boson Fields." 631 Avadh Bhatia Physics Laboratory.  
17 February, 3:30 p.m. Dr. Kurbatov, "On the Theory of Lattice Systems: Potts Model and Q-Color Problem." Location: same as above.

## Genetics

15 February, 4 p.m. Randy Johnston, Department of Biology, University of Calgary, "Gene Amplification and the Regulation of Gene Expression." G-217 Biological Sciences Centre.  
17 February, 4 p.m. Aladar Szalay, "Bacterial Luciferase, a Reporter Enzyme for Developmental Biology." G-217 Biological Sciences Centre.

## Renaissance Colloquium

15 February, 4 p.m. Linda Woodbridge, "Some Anthropological Approaches to Shakespeare." 4-29 Humanities Centre.

## Women's Program (Extension)

15 February, 7:30 p.m. Women and Literacy: A Public Forum.  
1-7 Humanities Centre.

## English

16 February, 3:30 p.m. B. Chaudhuri, "Dickens and the Serial Structure of *Bleak House*."

## Anatomy and Cell Biology

16 February, 4 p.m. Jack Diamond, professor, Department of Neurosciences, Faculty of Health Sciences, McMaster University, "Nerve Growth Factor and Plasticity in the Adult Nervous System."

5-10 Medical Sciences Building.  
23 February, 4 p.m. Jenny Tyler, professor, Matrix Biochemistry Division, Strangeways Research Laboratory, Worts Causeway, Cambridge, "Cytokines In Joint Disease: Their Influence on Cartilage Matrix Integrity." 5-10 Medical Sciences Building.

## Chemistry

17 February, 11 a.m. A. Kalantar, "Errors in Exponential Decay Rates and Efficiency from the Experimenter's Point of View." 1-07 V-Wing.  
23 February, 11 a.m. Christopher P. Walsh, Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, "Mechanistic Studies on a Biological Claisen Condensation Catalyst:  $\beta$ -Ketoacylthiolase from Polyhydroxybutyrate-Forming Bacteria." E1-60 Chemistry East.  
24 February, 11 a.m. Professor Walsh, "Phosphinate and Phosphonate Inhibitors of D-Alanine-Utilizing Enzymes in Bacterial Cell Wall Biogenesis." E1-60 Chemistry East.

## Forest Science

17 February, noon. Gary Machlis, College of Forestry, Wildlife and Range Sciences, University of Idaho, "Stability of Forestry-Based Communities and Timber Dependency: Is There a Link?" 4-1 Mechanical Engineering Building.

## Applied Mathematics Institute

17 February, 4 p.m. J.D. Wilson, "A Perturbation Analysis of Flow Through a Porous Barrier." 357 CAB.

## Entomology

18 February, 4 p.m. J. Volney, Northern Forestry Research Centre, "The Biology, Dynamics and Management of Jack Pine Budworm Populations in the Prairie Provinces." 2-35 Earth Sciences Building.

## Cross Cancer Institute

18 February, 7:30 p.m. Lee Cowan, "Food Choices: The Cancer Connection." Auditorium, Cross Cancer Institute.  
25 February, 7:30 p.m. Andrew Belch, "Cancer Chemotherapies." Location: same as above.

## Accounting

19 February, 3 p.m. Richard Mattessich, University of British Columbia, "An Applied Scientist's Search for a Methodological Framework: An Attempt to Apply Lakatos' Research Programmes, Stegmüller's Theory Nets, and Bunge's Family of Research Fields to Accounting Theory." 1-27 Business Building.

## Canadian Institute of Ukrainian Studies

19 February, 7:30 p.m. Valentyn Moroz, Jr., "Ukrainian Lira Players and Their Repertoire." Heritage Lounge, Athabasca Hall.

## Botany

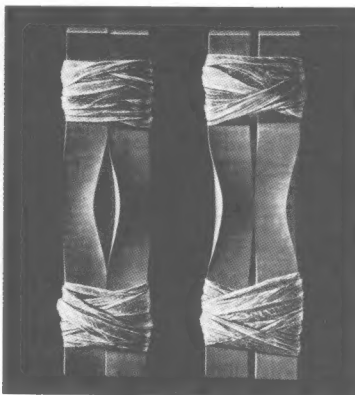
24 February, 4 p.m. Adrian J. Cutler, "Biochemical Analysis of Cereal Protoplast Recalcitrance." M-149 Biological Sciences Centre.

## The Arts

### Exhibitions

### FAB Gallery

Until 21 February. "Katsunori Hamanishi: Mezzotints" and "Small Sculpture by BFA Students."



### McMullen Gallery

Until 31 March. "Heart to Art." 432-4211.

### SUB Theatre

12 February, 8 p.m. "The Princess Bride."  
13 February, 10 a.m. to 4 p.m. U of A Young Executive Club's "Small Business Workshop." 432-5036.  
13 February, 8 p.m. "The Running Man."  
17 February. The Wildlands Wildlife Club presents "The Fate of the Giant Panda." 432-2056.  
19 February, 8 p.m. The Japanese Consulate and Winter Cities Showcase present "Hohsho Noh Theatre Troupe." 423-4750, 422-3752.  
20 February, 8 p.m. The Irish Sports and Social Society presents "The Irish Wolfe Tones." 453-2249.

## Music

13 February, 8 p.m. Opera Performance.  
17 February, 8 p.m. Student Recital—Tina Ross, trumpet, and Chris Gongos, horn.  
20 February, 8 p.m. Senior Student Recital—Debbie Wiebe.  
Performances in Convocation Hall.

## Théâtre Français d'Edmonton

12, 13, 19 and 20 February, 8 p.m., and 21 February, 3 p.m. "La Belle Au Bois Dormant." 469-0829.

## Sports

### Basketball

12 February, 6:30 p.m. Pandas vs. Calgary  
12 February, 8:15 p.m. Bears vs. Calgary  
13 February, 2 p.m. Pandas vs. Calgary  
13 February, 4 p.m. Bears vs. Calgary  
19 February, 6:30 p.m. Pandas vs. Victoria  
19 February, 8:15 p.m. Bears vs. Victoria  
20 February, 6:30 p.m. Pandas vs. Victoria  
20 February, 8:15 p.m. Bears vs. Victoria

### Hockey

12 February, 7 p.m. Bears vs. Manitoba  
13 February, 7 p.m. Bears vs. Manitoba

### Wrestling

13 February. CWUAA Finals.

## Surplus Equipment

The equipment appearing in this column is available only to University departments with University-administered funds. For more information, telephone Jody Broo' or Roy Bennett, 432-3208.

Wanted: (1) Flame Photometer  
(1) Micro-Centrifuge  
Malcolm King, Pulmonary Research, 432-6703.  
Wanted: (1) Refrigerated Centrifuge  
Marg Rusinko, Applied Sciences in Medicine, 432-8390/4881.

## Positions

The University of Alberta is an equal opportunity employer.

In accordance with Canadian Immigration requirements, these advertisements are directed to Canadian citizens and permanent residents.

## Support Staff

To obtain further information on the following positions, please contact Personnel Services and Staff Relations, 2-40 Assiniboia Hall, telephone 432-5201. Due to publication lead time and the fact that positions are filled on an ongoing basis, these vacancies cannot be guaranteed beyond 5 February. For a more up-to-date listing, please consult the weekly Employment Opportunities Bulletin and/or the postings in PSSR.

Clerk Steno III, Dean of Science, (\$1,366-\$1,716)  
Clerk Steno III, Forest Science, (\$1,366-\$1,716)  
Clerk Typist III, Physical Plant Administration, (\$1,366-\$1,716)  
Administrative Clerk, Personnel Services and Staff Relations, (\$1,522-\$1,945)  
Accounts Clerk, Office of the Comptroller, (\$1,522-\$1,945)  
Medical Steno (Temporary), Medicine (Gastroenterology), (\$1,522-\$1,945)  
Departmental/Executive Secretary (Term for one year), Pediatrics, (\$1,716-\$2,208)  
Technician I, Genetics, (\$1,580-\$2,027)  
Technician I (Trust), Medicine, (\$1,580-\$2,027)  
Instrument Technician II, Chemical Engineering, (\$1,791-\$2,304)  
Administrative Assistant I (Term), Extension - Local Government Studies, (\$1,945-\$2,510)  
Surgical Technician III (Trust), Medicine, (\$2,027-\$2,624)

For vacant Library positions, telephone 432-3339.

## Coordinator, Genetics Clinic

The position: An exceptional opportunity exists for a mature, ambitious individual in a government-funded Hereditary Disease Identification Program.

This is a senior position that reports directly to the director of the program. Duties include coordinating all clinic appointments and overseeing the activities of personnel in the centre: outreach clinics. This includes interaction with geneticists, genetic associates, outreach nurses, laboratory and secretarial staff.

The candidate: BSc or BScN or higher degree. Appropriate background in genetics and community health care experience an asset. The successful candidate will also have a proven record of administrative and organizational skills.

The hospital: The University of Alberta Hospitals is a 1,300-bed, smoke-free tertiary care teaching facility and the major specialty care referral centre for northern Alberta and the Territories centred in the dynamic new Walter C. Mackenzie Health Sciences Centre.

to: Recruitment Officer - Professional, University of Alberta Hospitals, 8440 112 Street, Edmonton, Alberta T6G 2B7 Telephone 432-8891.

## Advertisements

### Accommodations available

Sale - Belgravia, four-bedroom semi. \$105,000 plus a penny. This super country kitchen not for a loner. 452-2052 will get you the owner.

Sale - By owner. Romantic acreage, 2,300' architecturally-designed home and three landscaped acres. Spruce Grove. \$134,900. 963-6149.

Victoria Properties - Experienced, knowledgeable realtor with Edmonton references will answer all queries and send information. No cost or obligation. Call collect, (604) 385-4442. Lois Dutton, Dextron Realty Ltd., Victoria, B.C.

Sale - Grandview. Custom, four-level split. Excellent condition, must sell. \$147,500. By owner. Phone 435-2182 evenings.

Buying or selling a condominium - Contact your south side condominium specialist, Willma Currah, Royal LePage, 433-9243 or 437-7480.

Sale - \$95,000. 49-acre hobby farm, Cooking Lake. Two-bedroom bungalow. Large workshop/garage, swimming pool, 20 acres pasture, 29 bush. Easy 35-minute commute to city. 1-662-2690.

Rent - Available May for 12-month lease, 45 miles west of Edmonton on Lac Ste. Anne, furnished, ultra-modern home. Indoor pool, private beach, quiet. 924-2413.

Sale - Well-constructed, spacious, three-bedroom bungalow in Windsor Park. Modern interior with Poggenpohl kitchen, jacuzzi, fireplace,

double garage, developed basement. \$159,000. 11728 83 Ave. 433-8667.

Rent - One-bedroom, furnished. River valley view on University busline. Available 15 August 1988 to 1 May 1989. \$550 negotiable. 482-1848.

Sale - By owner. 1,240', semi-bungalow, excellent location, tree-lined street, Parkallen. Formal dining room, three bedrooms, two baths. New nanny suite in basement. Good access to University. Phone 438-1740.

Rent - University area. Newly decorated, one-bedroom basement suite in house. Large yard, garage. Available immediately. Please call 438-5291.

Rent - University area. Newly decorated, two-bedroom house. Large yard, garage. Available immediately. Please call 438-5291.

Share - Trouble finding a home to share? If you are female, 45-70, independent, and wish to share a senior's home, call The Society for the Retired and Semi-Retired, 423-5510.

Sale - Easy access to University and all amenities. Beautifully maintained, three-bedroom home, four appliances, rumpus room. Double garage (heated) and more. \$68,500. Shirley Kilfoyle, Royal LePage, 438-5100 or 435-6113.

Sale - Belgravia charm, character, location, semi. Over 1,500 sq. ft., upgraded, oak kitchen. Atrium/solarium plus more. Ronn Bence, 438-5100 (bus.), 436-6296 (res.) Royal LePage.

### Accommodations wanted

House required for one/two years for architect and family from August. 998-5171.

### Goods for sale

Books wanted - Collections large/small. History, philosophy, literature, art, music, Canadiana, etc. Preferably pre-1970, including 19th century, earlier. Bjarne's Books, 10005 82 Ave., Edmonton. 439-3812. Our buyer pleased to call.

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condition. \$6,900. Phone 435-1559 after 4 p.m.

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### Services

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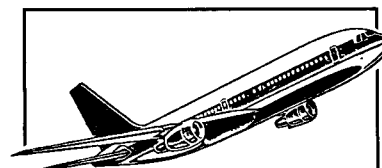
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